Appendix M3 to Part 226—Sample Calculations of Generic Repayment Estimates and Actual Repayment Disclosures

(a) Generic repayment estimates. The following is an example of how to calculate the generic repayment estimates using the guidance in appendix M1 to this part where the annual percentage rate is 17 percent, the outstanding balance is $1,000, and the minimum payment formula is 2 percent of the outstanding balance or $20, whichever is greater. The following calculation is written in SAS code.

```
data one;

* inputs;

* annual percentage rate;  apr=0.17;

perrate=(apr/12);  * calculate monthly periodic rate;
*perrate = ((1+(apr/365))**30.41667)-1;    *this formula would be used if a daily
periodic rate is assumed, and a 365 day year is used with 30.41667 days per month;

* outstanding balance;    cbal=1000;
* dollar minimum payment;  dmin=20;
* percent minimum payment; pmin=0.02;


* initialize counter for months;
month=0;


eins:
month=month+1;            * increment month counter;
pmt=round(pmin*cbal,0.01); * calculate payment as percentage of balance;

if pmt lt dmin then pmt=dmin; * set dollar minimum payment;
xxxbal=round(cbal*(1+perrate),0.01);
if pmt gt xxxbal then
              pmt=xxxbal; * set final payment amount;

fc=round(cbal*perrate,0.01); * calculate interest charge;
prpmt=pmt-fc;    * calculate principal payment;

* print month, balance, payment amount, interest charge, and principal payment;
```

```
put month= cbal= pmt= fc= prpmt= ;


cbal=round(cbal-prpmt,0.01);  * deduct principal payment from balance;

if cbal gt 0 then go to eins; * go to next month if balance is greater than zero;

* print number of months to repay debt, final balance (zero),
  periodic rate;
put title='  ';
put title='number of months to repay debt, final balance, periodic rate';
put month= cbal= perrate=;
put title='  ';
run;
```

(b) Actual Repayment Disclosures. The following is an example of how to calculate the actual repayment disclosures using the guidance in appendix M2 to this part where three annual percentage rates apply, the total outstanding balance is $1000, and the minimum payment formula is 2 percent of the outstanding balance or $20, whichever is greater. The following calculation is written in SAS code.

```
data one;

*initialize numbers of APRs, periodic rates, balance and periodic interest charges;

array apr(3);
array perrate(3);
array cbal(3);
array fc(3);

* inputs;

*initialize APRs, and balances, placing rates from lowest to highest;

*annual percentage rates from lowest to highest;
apr1=0.019;
apr2=0.17;
apr3=0.21;

cbal1=500;  * outstanding balance associated with apr1;
cbal2=250;  * outstanding balance associated with apr2;
```

```
cbal3=250;  * outstanding balance associated with apr3;

dmin=20;     * dollar minimum payment;
pmin=0.02;  * percent minimum payment;

* initialize counter for months and total balance;
month=0;
tbal = 0;

*calculate periodic rates and initial total balance;

do I=1 to 3;
perrate(I)=(apr(I)/12);  * calculate monthly periodic rate;

*the following formula would be used if a daily periodic rate is assumed, and a 365 day
year is used with 30.41667 days per month;
*perrate = ((1+(apr(I)/365))**30.41667)-1;

tbal= tbal+cbal(I);
end;

*calculate months to pay off for lowest rate balance;

do while (cbal(1) gt 0);
   month = month+1;
   pmt= round(pmin*tbal,.01); *calculate payment as percentage of balance;
  if pmt lt dmin then pmt=dmin; * set dollar minimum payment;

   do I=1 to 3;
   fc(I)= round (cbal(I)*perrate(I), 0.01); *calculate interest charges;
   end;

   do I=1 to 3;
   cbal(I)=cbal(I)+fc(I); tbal=tbal+fc(I); *add interest charges to balances;
   end;

  cbal(1)=cbal(1)-pmt; *applying payment to lowest APR balance;
   tbal = tbal-pmt;

end;

*calculate months to pay off for next lowest rate balance, if any, carrying over number
from lower rate balance;

cbal(2)=cbal(2)+cbal(1);
```

```
do while (cbal(2) gt 0);
   month=month+1;
   pmt=round (pmin*tbal, 0.01); *calculate payment as percentage of balance;
   if pmt lt dmin then pmt=dmin; * set dollar minimum payment;

   do I=2 TO 3;
   fc(I)=round (cbal(I)*perrate(I), 0.01); *calculate interest charges;
   end;

   do I=2 TO 3;
   cbal(I)=cbal(I)+fc(I); tbal=tbal+fc(I); *add interest charges to the balances;
   end;

   cbal(2)=cbal(2)-pmt; *applying payment to second lowest APR;
   tbal=tbal-pmt;

end;

*calculate months to pay off for next lowest rate balance, if any, carrying over number
from lower rate balances;

cbal(3)=cbal(3)+cbal(2);

do while (cbal(3) gt 0);
   month= month+1;
   pmt=round (pmin*tbal, 0.01); *calculate payment as percentage of balance;
  if pmt lt dmin then pmt=dmin; * set dollar minimum payment;

   fc(3)=round (cbal(3)*perrate(3), 0.01); *calculate interest charge;

   cbal(3)=cbal(3)+fc(3); *add interest charges to balance;

   tbal= tbal+fc(3);

   cbal(3)=cbal(3)-pmt; *applying payment to remaining balance;

   tbal = tbal-pmt;

end;

* print number of months to repay debt, final balance (zero),
periodic rate;
put title=' ';
put title='number of months to repay debt, final balance';
put month= tbal=;
put title=' ';                              run;
```

[Reg. Z, 74 FR 5441, Jan. 29, 2009]

EFFECTIVE DATE NOTE: At 74 FR 5441, Jan. 29, 2009, appendix M3 was added to part 226, effective July 1, 2010.

SUPPLEMENT I TO PART 226—OFFICIAL STAFF INTERPRETATIONS

INTRODUCTION

1. *Official status.* This commentary is the vehicle by which the staff of the Division of Consumer and Community Affairs of the Federal Reserve Board issues official staff interpretations of Regulation Z, as revised effective April 1, 1981. Good faith compliance with this commentary affords protection from liability under 130(f) of the Truth in Lending Act. Section 130(f) (15 U.S.C. 1640) protects creditors from civil liability for any act done or omitted in good faith in conformity with any interpretation issued by a duly authorized official or employee of the Federal Reserve System.

2. *Procedure for requesting interpretations.* Under appendix C of the regulation, anyone may request an official staff interpretation. Interpretations that are adopted will be incorporated in this commentary following publication in the FEDERAL REGISTER. No official staff interpretations are expected to be issued other than by means of this commentary.

3. *Status of previous interpretations.* All statements and opinions issued by the Federal Reserve Board and its staff interpreting previous Regulation Z remain effective until October 1, 1982, only insofar as they interpret that regulation. When compliance with revised Regulation Z becomes mandatory on October 1, 1982, the Board and staff interpretations of the previous regulation will be entirely superseded by the revised regulation and this commentary except with regard to liability under the previous regulation.

4. *Rules of construction.* (a) Lists that appear in the commentary may be exhaustive or illustrative; the appropriate construction should be clear from the context. In most cases, illustrative lists are introduced by phrases such as ''including, but not limited to,'' ''among other things,'' ''for example,'' or ''such as.''

(b) Throughout the commentary and regulation, reference to the regulation should be construed to refer to revised Regulation Z, unless the context indicates that a reference to previous Regulation Z is also intended.

(c) Throughout the commentary, reference to ''this section'' or ''this paragraph'' means the section or paragraph in the regulation that is the subject of the comment.

5. *Comment designations.* Each comment in the commentary is identified by a number and the regulatory section or paragraph which it interprets. The comments are designated with as much specificity as possible according to the particular regulatory provision addressed. For example, some of the comments to § 226.18(b) are further divided by paragraph, such as Comment 18(b)(1)–1 and Comment 18(b)(2)–1. In other cases, comments have more general application and are designated, for example, as Comment 18–1 or Comment 18(b)–1. This introduction may be cited as Comments I–1 through I–7. Comments to the appendices may be cited, for example, as Comment app. A–1.

6. *Cross-references.* The following cross-references to related material appear at the end of each section of the commentary:

(a) ''Statute''—those sections of the Truth in Lending Act on which the regulatory provision is based (and any other relevant statutes);

(b) ''Other sections''—other provisions in the regulation necessary to understand that section;

(c) ''Previous regulation''—parallel provisions in previous Regulation Z; and

(d) ''1981 changes''—a brief description of the major changes made by the 1981 revisions to Regulation Z.

Where appropriate a fifth category (''Other regulations'') provides cross-references to other regulations.

7. *Transition rules.* (a) Though compliance with the revised regulation is not mandatory until April 1, 1982, creditors may begin complying as of April 1, 1981. During the intervening year, a creditor may convert its entire operation to the new requirements at one time, or it may convert to the new requirements in stages. In general, however, a creditor may not mix the regulatory requirements when making disclosures for a particular closed-end transaction or open-end account; all the disclosures for a single closed-end transaction (or open-end account) must be made in accordance with the previous regulation, or all the disclosures must be made in accordance with the revised regulation. As an exception to the general rule, the revised rescission rules and the revised advertising rules may be followed even if the disclosures are based on the previous regulation. For purposes of this regulation, the creditor is not required to take any particular action beyond the requirements of the revised regulation to indicate its conversion to the revised regulation.

(b) The revised regulation may be relied on to determine if any disclosures are required for a particular transaction or to determine if a person is a *creditor* subject to Truth in Lending requirements, whether or not other operations have been converted to the revised regulation. For example, layaway plans are not subject to the revised regulation, nor are oral agreements to lend money if there is no finance charge. These provisions may be relied on even if the creditor is making other disclosures under the previous regulation.